WHAT IS CLAIMED IS:

1. A nitride semiconductor device having a structure wherein an active layer of a quantum well structure, which has a well layer made of a nitride semiconductor that includes In and a barrier layer made of a nitride semiconductor, is sandwiched between a p-type nitride semiconductor layer and an n-type nitride semiconductor layer,

wherein said active layer has, as said barrier layer, a first barrier layer arranged in a position nearest to said p-type nitride semiconductor layer and a second barrier layer that is different from the first barrier layer;

and wherein said first barrier layer does not substantially include an n-type impurity while said second barrier layer includes an n-type impurity.

- 2. The nitride semiconductor device according to Claim 1, wherein the film thickness of said first barrier layer is greater than the film thickness of said second barrier layer.
- 3. The nitride semiconductor device according to Claim 1, wherein said active layer has L (L \geq 2) barrier layers so that the barrier layer arranged in a position nearest to said n-type nitride semiconductor layer is denoted

as barrier layer B1 and the i-th barrier layer (i=1, 2, 3, ...L) counted from the barrier layer B1 toward said p-type nitride semiconductor layer is denoted as barrier layer Bi; and barrier layers Bi from i=1 to i=n (1 < n < L) include an n-type impurity.

- 4. The nitride semiconductor device according to Claim 1, wherein the entire barrier layers other than said first barrier layer include an n-type impurity.
- 5. The nitride semiconductor device according to Claim 1, wherein said first barrier layer is arranged in the outermost position in said active layer.
- 6. The nitride semiconductor device according to Claim 7, wherein said second barrier layer is arranged in the outermost position close to said n-type nitride semiconductor layer within said active layer.
- 7. The nitride semiconductor device according to Claim 6, wherein the film thickness of said first barrier layer is approximately the same as the film thickness of said second barrier layer.
 - 8. The nitride semiconductor device according to

Claim 7, wherein said active layer has 2 or more well layers and has a third barrier layer between the well layers; and

the film thickness of said third barrier layer is smaller than the film thickness of said first p side barrier layer and said second n side barrier layer.

- 9. The nitride semiconductor device according to Claim 1, wherein at least one well layer within said active layer has a film thickness of not less than 40 $\hbox{\AA}$.
- 10. The nitride semiconductor device according to Claim 1, wherein said first barrier layer has a p-type impurity.
- 11. The nitride semiconductor device according to Claim 1, wherein said first barrier layer includes a p-type impurity in the range of no less than 5×10^{16} cm⁻³ and no more than 1×10^{19} cm⁻³.
- 12. The nitride semiconductor device according to Claim 1, wherein said first barrier layer is p-type or i-type.
- 13. The nitride semiconductor device according to Claim 12, wherein said first barrier layer has been grown without being doped with an impurity and includes a p-type

impurity through diffusion from said p-type nitride semiconductor layer.

- 14. The nitride semiconductor device according to Claim 1, wherein said n-type nitride semiconductor layer, said active layer and said p-type nitride semiconductor layer are layered in sequence.
- 15. The nitride semiconductor device according to Claim 1,

wherein said p-type nitride semiconductor layer has an upper clad layer made of a nitride semiconductor that includes Al of which the average mixed crystal ratio \mathbf{x} is in the range of $0 < \mathbf{x} \le 0.05$;

said n-type nitride semiconductor layer has a lower clad layer made of a nitride semiconductor that includes Al of which the average mixed crystal ratio x is in the range of 0 < $x \le 0.05$; and

the nitride semiconductor device has a laser device structure.

16. The nitride semiconductor device according to Claim 1, wherein said device has a first p-type nitride semiconductor layer adjoining the active layer in said p-type nitride semiconductor layer, and said first p-type nitride

semiconductor layer is made of a nitride semiconductor that includes Al.

- 17. The nitride semiconductor device according to Claim 16, wherein said first p-type nitride semiconductor layer is provided so as to contact a barrier layer nearest to said p-type nitride semiconductor layer and has been grown being doped with a p-type impurity of which concentration is higher than that of said barrier layer in said active layer.
- 18. The nitride semiconductor device according to Claim 1, wherein the number of well layers in said active layer is from 1 to 3.
- 19. The nitride semiconductor device according to claim 1, in said active layer said second barrier layer is arranged between well layers and the film thickness ratio Rt (= [film thickness of a well layer] / [film thickness of a barrier layer]) of said well layer to the second barrier layer is in the range of $0.5 \le Rt \le 3$.
- 20. The nitride semiconductor device according to claim 1, wherein the film thickness dw of said well layer is in the range of $40\text{\AA} \leq \text{dw} \leq 100\text{\AA}$ while the film thickness db of said second barrier layer is in the range of db \geq 40

- 21. The nitride semiconductor device according to Claim 1, wherein said p-type nitride semiconductor layer has an upper clad layer made of a nitride semiconductor that includes Al and said n-type nitride semiconductor layer has a lower clad layer made of a nitride semiconductor, wherein the average mixed crystal ratio of Al in the upper clad layer is greater than that of the lower clad layer.
- 22. The nitride semiconductor device according to Claim 21, wherein the average mixed crystal ratio x of Al in said upper clad layer is in the range of 0 < x \leq 0.1.
- 23. The nitride semiconductor device according to Claim 1,

wherein said p-type nitride semiconductor layer has a first p-type nitride semiconductor layer which contacts said active layer and becomes an electron confining layer;

said active layer has a well layer of which distance dB from the first p-type nitride semiconductor layer is in the range of no less than 100 Å and no more than 400 Å and has a first barrier layer within the distance dB.